UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,906	07/12/2005	Derek Geoffrey Finch	033963-015	6242

21839 7590 01/09/2007

BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER	
LE, HIEN	
ART UNIT	PAPER NUMBER
3662	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/541,906	FINCH ET AL.	
	Examiner	Art Unit	
	Hien Le	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-36* is/are rejected.

7)☒ Claim(s) *27,36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 July 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/12/2005 and 10/31/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C 119(a)-(d), which papers have been placed of record in the file.

Drawings Objection

The drawings are objected to because of the following minor informalities:

On Figure 9, steps **62 and 66-76**, all the square boxes should be described to identify the differences, such as: 62- transmitter, 66-receiver, 68-processor, etc...

Appropriate correction is required.

Specification Objection

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.

(b) CROSS-REFERENCE TO RELATED APPLICATIONS.

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.

(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Appropriate correction is required.

Claim Objections

Claims **27 and 36, line 1 -2** are objected to because of the following informalities:

The phrase "but mutually incoherent" should be corrected as " and mutually incoherent".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims **29-32** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims **29-32** as written are classified as hybrid claims. MPEP 2173.05 (p) (II), states a single claim, which claims both an apparatus and the method steps of using the apparatus, is indefinite under USC 112, second paragraph. These types of claims are indefinite because they fail to positively recite the boundaries of protection. The metes and bounds of the claim cannot be determined because it is unclear whether protection is sought for the method or for the apparatus.

As best understanding of the examiner, claims **29-32** will be treated on the merits in this office action.

3. Claims **26 and 35** recite the limitation "irregular intervals" in transmitted multiple pulses. There is insufficient antecedent basis for this limitation in the claim because the ranges of irregular intervals are not disclosed.

As best understanding of the examiner, claims **26 and 35** will be treated on the merits in this office action.

Claim Rejections - 35 USC § 101

Considering **claims 17-28 and 33-36**, these claims are processes. They include the judicial exception of abstract ideas (receiving signal, processing signal, measuring signal, modifying data, determining the data).

No physical transformation is present to establish a practical application of the idea.

The result (determining the target's velocity) is useful (establishes the specific, substantial and credible utility of giving an indication of target's velocity) only if at least made available for use in the disclosed practical application, concrete if the determination is based on objective criteria, and tangible if it's more than just a thought or a determination within carrier wave and data, instead being a real world result.

In this instance, **claims 17-28 and 33-36** do not appear to produce tangible results such that the usefulness of the determination can be realized. They, therefore, appear to be non-statutory.

Considering **claims 29-32**, these claims are apparatuses. They include the judicial exception of abstract ideas (a microprocessor, a program element, and a data processing).

No physical transformation is present to establish a practical application of the idea.

The result (determining the target's velocity) is useful (establishes the specific, substantial and credible utility of giving an indication of target's velocity) only if at least made available for use in the disclosed practical application, concrete if the

determination is based on objective criteria, and tangible if it's more than just a thought or a determination within data, instead being a real world result. Also, those claims above do not disclose how the input and out put data are displayed.

In this instance, **claims 29-32** do not appear to produce a tangible result such that the usefulness of the determination can be realized. It, therefore, appears to be non-statutory.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim **17-18, 21-23, 29, and 30-31** are rejected under 35 U.S.C. 102(b) as being unpatentable by **Neidell (U.S. Patent # 4,114,153)**.

Considering **claim 17**, Neidell discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts comprising the steps of:

a) Receiving radiation echo returns of the pulse bursts from a remote scene. See FIG.1. " An echo 3A from the target propagates to a receiver 4 where it is detected and sent on to the processing sequencer 5" (column 3, line 46-47).

b) Processing the echo returns into in-phase (I) and quadrature (Q) components. See FIG.2. " Each member signal will be a linear combination of a pair of base signals $f_0(t)$, $f_1(t)...f_o(t)$ and $f_1(t)$ are in quadrature. Every Fourier frequency component necessary for the description of $f_o(t)$ is displaced in phase as measured from any origin in time by 90^o from it counter part in the description of $f_1(t)$" (column 4, line 18-37).

It is well known to one skill in the art that the processing sequencer in the reference is understood as the function to process the echo returning in to phase and quadrature components. Therefore, Neidell successfully discloses step b) limitation.

c) Measuring returns at intervals to provide sampled data. " The use of a train of signals of known intervals of separation then allows that s be computed from the changes of such intervals in the echo train 3A" (column 5, line 48-50).

d) Applying a predetermined function to the I-Q returns. See FIG. 13. " The Klauder Signals in mathematical language" (column 5, line 59-68 and column 6, line 1-49).

It is well known in the art that the art that there are many ways to calculate the I-Q returns signals. Therefore, Neidell successfully discloses the d limitation.

e) Modifying the predetermined function to match the sampled data as a function of velocity. " Once s is known, the echo arrival times may be compensated for the target relative velocity effects so that accurate estimates of the target range can be obtained" (column 5, line 49-53).

f) Determining the target radial velocity in dependence upon said modification step of the predetermined function. " Once s is known, the echo arrival times may be compensated for the target relative velocity effects so that accurate estimates of the target range can be obtained" (column 5, line 49-53).

Considering **claim 18**, Neidell discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein step (d) comprises fitting a curve to the I-Q returns and step (e) comprises optimising the fit to the sampled data as a function of velocity in a least squares fashion. " It is well known that the cross- and auto correlation signatures of the chirp signal 2A in the absence of any stretching or compression are in fact to a good approximate the Klauder Signals 2B...The bottom curve of FIG. 17 is in the fact the auto-correlation of sinusoidal chirp or sweep" (column 8, line 19-67).

It is well known to one skill in the art that there are many different ways to optimize the fit to the sampled data as a function of velocity. In the reference, the cross- and auto correlation signatures of the chirp signal in the absence of any stretching or in a good approximate the Klauder Signal are giving the same results.

Therefore, Neidell successfully disclose the listed limitations.

Considering **claim 21**, Neidell discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising the step of extracting target amplitude from the sampled data. " Each member signal of the outgoing train has like polarization characteristics if these

are applicable and a common amplitude spectrum as defined by the modulus of the exponential Fourier transform" (column 4, line 9-13).

Considering **claim 22**, Neidell discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising the step of extracting range ambiguity from the sampled data. " Ambiguity of position can be eliminated as indicated again in FIG. 11 by designing the configuration so that certain positions are disallowed, as for example those to left of the dashed line AA" (column 19, line 49-43).

Considering **claim 23**, discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising the step of extracting target azimuth from the sampled data. " The signal echo train identified by " Return Azimuth" 0^{o} is in fact of the form illustrated by FIG.13" (column 8, line 52-53).

Considering **claim 29**, Neidell discloses the limitations of a microprocessor programmed to carry out the method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts. " An echo 3A from the target propagates to a receiver 4 where it is detected and sent on to the processing sequencer 5. The outputs of the processing sequencer are directly interpretable as the target parameter estimator, which gives the reflecting target 3 as sum of distance to the transmitter 1 and receiver 4"(column 3, line 45-55).

It is well known to ordinary skill in the art that the processing sequencer in the reference is understood as a microprocessor.

Therefore, Neidell successfully discloses the limitations above.

Considering **claim 30 and 31**, Neidell discloses the limitations of a program element comprising program code operable to carry out a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts and carried on a medium. See FIG 15. and 16. FIG 15. and 16 illustrate the technique through he results of a digital computer simulation.

It is well known to one skill in the art that the computer simulation in the reference certainly consists of a program element. Also, the computer in the reference is understood as a carrier medium.

Therefore, Neidell also discloses the listed limitations.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim **19-20, 24-25, 28, and 33-34** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Neidell (U.S. Patent # 4,114,153),** in view of **Togashi et al. (U.S. Patent # 4,809,002).**

Considering **claim 19 and 33**, Neidell fails to disclose the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein a model of clutter return is provided for use in steps (d) and (e).

However, Togashi et al. successfully discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein a model of clutter return is provided for use in steps (d) and (e). " The moving clutter cancellers 15 and 16, comprising the same circuit as the stationary clutter cancellers 11 and 12, remove the corrected moving clutter. Then the I and Q component signals from which the stationary clutter and the moving clutter have been removed are combined in a I/Q combiner 17 and the combined signal is output to a display as an indication video signal" (column 7, line 68-69;column 8, line 1-5), also the equation (2) in the reference shows the predetermined function to match the sampled data as a function of velocity.

Therefore, it would have been obvious to ordinary skill in the art that a model of clutter returns is provided by applying I and Q returns, and the predetermined function to match the sampled data is modified as a function of velocity.

Doing so would motivate the limitations of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein a model of clutter return is provided for use in steps (d) and (e).

Considering **claim 20**, Togashi et al. also discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein the model of clutter return is a low order polynomial function in I and Q. "The I and Q channel components have constant, $2E_2A_0\cos\theta_0$ respectively and $2E_2A_0\sin\theta_0$" (column 6, line 13-20, equation 11).

It is well known to one skill the art that the equation **11** in the reference is represented by the low order polynomial function in I and Q. Also, the model clutter return is proved to use in step (d) and (e).

Doing so would motivate the limitations of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein the model of clutter return is a low order polynomial function in I and Q.

Considering **claim 24**, discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein the echo returns are measured at non-equi-spaced intervals. " If we perform Fourier analyses, using a coordinate origin these points of symmetry and antisymetry, these phase spectrum of the resulting transform must either be identically zero, +/- pi or else equal pi/2 sgn (w)" (column 6, line 59-63).

It is well known to one skill in the art that +/- pi or else equal pi/2 sgn (w) intervals are understood as non-equi-spaced intervals.

Doing so would motivate the limitations of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein the echo returns are measured at non-equi-spaced intervals.

Considering **claim 25 and 34**, Neidell discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein the pulse bursts are transmitted at a frequency which is changed between successive pulses. See FIG.5. Fig. 5 illustrates the technique in terms of a number of different frequency bands, but it should be understood that mutual exclusion may still be achieved within a single band if differing directions of polarization are employed. (Column 14, line 1-10).

Considering **claim 28**, Neidell fails to disclose the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising the step of carrying out conventional Moving Target Indication/Moving Target Detection filtering and target detection before applying a predetermined function, as in step (d), to the I-Q returns in which a target was detected.

However, Togashi et al. successfully disclose the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising the step of carrying out conventional Moving Target Indication/Moving Target Detection filtering and target detection before applying a predetermined function, as in step (d), to the I-Q returns in which a target was detected. " The present invention has two conventional MTI connected in series and a corrector which corrects the phase and amplitude components of the a first stage MTI filter in

order to detect a moving target in the region where both stationary clutter and moving clutter exist" (column 3, line 10-15), and " a vector processing MTI including an I channel and Q channel. In the staggered PRF MTI system, both the amplitude and the phase of the moving clutter in the output of the MTI canceller are varied with the Doppler frequency response characteristics" (column 4, line 54-64).

Therefore, it would have been obvious to teach the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising the step of carrying out conventional Moving Target Indication/Moving Target Detection filtering and target detection before applying a predetermined function, as in step (d), to the I-Q returns in which a target was detected.

Doing so would motivate the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising the step of carrying out conventional Moving Target Indication/Moving Target Detection filtering and target detection before applying a predetermined function, as in step (d), to the I-Q returns in which a target was detected.

8. Claims **26-27, 32, and 35-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Neidell (U.S. Patent # 4,114,153)**, as modified by **Togashi et al. (U.S. Patent # 4,809,002)**, further in view of **Evans (U.S. Patent # 3,860,924).**

Considering **claim 26 and 35**, Neidell, as modified by Togashi et al., disclose the limitations of discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, but fail to

disclose the limitations of each pulse burst consists of multiple pulses transmitted at irregular intervals.

However, Evans successfully discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein each pulse burst consists of multiple pulses transmitted at irregular intervals. " The counter 184 for a step scan radar system, is set to a value as a function of the number of pulses of each pulse burst and the number of canceller stages as previously discussed, and for a four bit radar system with a single stage canceller the counter is set to three so that during the fourth pulse repetition interval, the gate 86 is blanked" (column 7, line 25-30).

Therefore, it would have been obvious to ordinary skill in the art that each pulse burst in the reference consists of multiple pulses transmitted at irregular intervals because pulse repetition intervals are understood as the irregular intervals.

Doing so would motivate the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein each pulse burst consists of multiple pulses transmitted at irregular intervals.

Considering **claim 27 and 36**, Evans further discloses the limitations of a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein pulse bursts are the internally coherent but mutually incoherent. " The circuit 70 corresponds to a coherent reference signal from the timer 39 in both an in-phase and a quadrature form" (column 4, line 31-34).

It is well known to ordinary skill in the art that a coherent reference signal from the timer are determined by pulse bursts which are the internally coherent but mutually incoherent.

Therefore, Evans successfully discloses the limitations of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, wherein pulse bursts are the internally coherent but mutually incoherent.

Considering **claim 32**, Neidell, as modified by Togashi et el., disclose the limitations of a data processing system adapted and arranged to carry out a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, comprising:

g) A transmitter and a receiver. See FIG.1. " A suitable transmitter 1 emits a signal train 1Ahaving at least two members into a propagation medium 2 in which is embedded a reflecting target 3. An echo 3A from the target propagates to a receiver 4" (column 3, line 43-49).

i) An I and Q component splitter. " The received signal is divided into two parts by signal splitter 5B" (column 6, line 14-18).

k) Processing means to fit a predetermined function to I and Q components according to steps (d) and (e). " FIG.15 and 16 further illustrate the technique through the results of a digital computer simulation... The bottom curve of FIG. 17 is in the fact the auto-correlation of sinusoidal chirp or sweep" (column 8, line 35-67).

Neidell, as modified by Togashi et el., disclose the limitations of a data processing system adapted and arranged to carry out a method of extracting a radial

velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising an analog-to-digital converter.

However, Evans successfully discloses the limitations of a data processing system adapted and arranged to carry out a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising an analog-to-digital converter. "The digital signals form the A/D units 74 and 76 are respectively applied through leads 78 and 80 to MTI or moving target indicator units 82 and 84" (column 4, line 31-34).

Therefore, it would have been obvious to teach the limitations of a data processing system adapted and arranged to carry out a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising an analog-to-digital converter.

Doing so would motivate the limitations of a data processing system adapted and arranged to carry out a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts, further comprising an analog-to-digital converter.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Le whose telephone number is 571-270-1326. The examiner can normally be reached on M-F: 7:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrell McKinnon can be reached on 571-272-4797. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner

Hien Le

December 26, 2006

TERRELL L. MCKINNON
SUPERVISORY PATENT EXAMINER